

**CONTINUOUS IMPROVEMENT PRACTICES AND ORGANIZATIONAL  
PERFORMANCE OF NAIROBI BOTTLERS LIMITED, KENYA.**

**THUA STEPHEN MAINA**

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**DECEMBER 2021**

**DECLARATION**

I declare that this project is my original work and has not been presented to any other institution of higher learning or other examination body.No part of this research should be reproduced without my consent or that of Kenyatta University.



02/12/2021

Signature .....

Date .....

**Thua Stephen Maina**

D53/OL/CTY/32162/2017

This research project has been submitted for examination with my approval as the University Supervisor.



02/12/2021

Signature .....

Date .....

**Mr. Shadrack Bett**

Department of Business Administration

School of Business

Kenyatta University

## **DEDICATION**

This research is dedicated to my wife, Mercy, Son- Carson and daughter- Elianna for their support, love and encouragement. My wife and friend, thanks for your incredible support together with our kids to demonstrate that anything that you focus on, you can achieve. I also appreciate my extended family, friends and Church for their support.

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## **ABBREVIATION AND ACRONYMS**

<b>BPR</b>	Business Process Re-engineering
<b>CCBA</b>	Coca Cola Beverage Africa
<b>COMESA</b>	Common Market for Eastern and Southern Africa
<b>CSFs</b>	Critical Success Factors
<b>CIP</b>	Continuous Improvement Practices
<b>EAC</b>	East African Community
<b>GDP</b>	Gross Domestic Product
<b>GoK</b>	Government of Kenya
<b>HR</b>	Human Resource
<b>ICDC</b>	Industrial and Commercial Development Corporation
<b>ICT</b>	Information Communication Technology
<b>JIT</b>	Just In Time
<b>KAM</b>	Kenya Association of Manufacturers
<b>NACOSTI</b>	National Commission for Science Technology and Innovation
<b>NARTD</b>	Non-Alcoholic Ready To Drink
<b>NBK</b>	National Bank of Kenya
<b>NBL</b>	Nairobi Bottlers Limited
<b>RBV</b>	Resource-Based View
<b>SA</b>	South Africa
<b>SABCO</b>	South Africa Bottling Company
<b>SCM</b>	Supply Chain Management
<b>SMEs</b>	Small and Medium Enterprises
<b>SPSS</b>	Statistical Packages for Social Sciences
<b>TQM</b>	Total Quality Management
<b>USA</b>	United States of America

## OPERATIONAL DEFINITION OF TERMS

<b>Best Industry Practices</b>	These are guidelines, policies and standards that guide peak performance, manufacturing, process and management
<b>Continuous Improvement Practices</b>	Periodical change in management that emphasizes the importance of established organizational values, methods, and capabilities for systematic and systemic development and progress review.
<b>Innovation</b>	Is a technology-driven process for coming up with effective and efficient ways of manufacturing, management, quality and service delivery
<b>Lean Manufacturing</b>	Production system and line that is efficient, effective and cost effective aimed at maximizing firm returns
<b>Lean Supply Chain Management</b>	An effective procurement, supply, logistics and warehousing mode that is efficient, cost effective and reliable to firm needs and activities
<b>Organizational Performance</b>	Comprises the actual output or results of an organization as measured against its intended outputs.

## ABSTRACT

In many developing nations, especially in Asia, manufacturing industry is the key foundation of the economy (Oakland, 2003). In Kenya, manufacturing industry has had an average growth rate of four percent over the last decade (Kenya Association of Manufacturers, 2014). This research focused on the effect of continuous improvement practices on Nairobi Bottlers Limited's organizational performance. The specific objectives aimed at determining how lean manufacturing, best industry practices, innovation and lean supply chain management affect organizational performance at Nairobi Bottlers Limited. Three theories guided the entire study and they included the Stakeholder's Theory, System Theory, and Resource-based view. Further, a descriptive research design was applied. The management staff at Nairobi Bottlers Limited were the target population of the study. The population of the study was 308 management staff members. A stratified random sampling procedure was used to pick 93 participants. In terms of collection of relevant data and analysis semi-structured questionnaires was used. For data analysis, Statistical Packages for Social Sciences was used and result was presented using graphs, pie charts and tables. The study found out that 90.6% of the respondents agreed that standardization of products was used by Nairobi Bottlers Limited and supported by a mean of 4.09, 85.8% of the respondents agreed that waste reduction procedures was embraced by NBL and supported by a mean of 4.07. Majority (52.3%) of the respondents agreed that fair and diligent financial management was used by Nairobi Bottlers Limited and supported by a mean of 3.42, 68.6% of the respondents agreed that observance of management and industry standards was used by Nairobi Bottlers Limited and supported by a mean of 3.4. Fifty nine point five percent of the respondents agreed that use of modern and new technology is used by Nairobi Bottlers Limited and supported by a mean of 3.4, 65.8% of the respondents agreed that originality is embraced by Nairobi Bottlers Limited and supported by a mean of 3.39. Sixty-nine-point three percent of the respondents agreed that effective inventory management was present at Nairobi Bottlers Limited and supported by a mean of 3.31 while 60.3% of the respondents said that efficient logistics management was present at Nairobi Bottlers Limited and supported by a mean of 3.29. Continuous improvement practices (lean manufacturing, industry best practices, continuous innovation and lean supply chain management) explained 73.6% of the performance at Nairobi Bottlers Limited. The study concluded that standardization of products was used by Nairobi Bottlers Limited, waste reduction procedures was embraced by Nairobi Bottlers Limited. Secondly the study concluded that fair and diligent financial management was used by Nairobi Bottlers Limited, observance of management and industry standards was used by Nairobi Bottlers Limited. Thirdly the study concluded that use of modern and new technology is used by Nairobi Bottlers Limited, originality is embraced by Nairobi Bottlers Limited. Fourthly the study concluded that effective inventory management was present at Nairobi Bottlers Limited. Lastly this study concludes that there is a strong and positive relationship between continuous improvement practices (lean manufacturing, industry best practices, continuous innovation and lean supply chain management) and performance at Nairobi Bottlers Limited. The study recommends that it is important for such a study in order to establish compliance to the set standards of continuous improvement practices. A replica of this study can be carried out with a further scope to include more companies in Kenya other than Nairobi Bottlers Limited. A similar study can be done on other continuous improvement practices other than those practiced by Nairobi Bottlers Limited.

# CHAPTER ONE

## INTRODUCTION

### 1.0 Introduction

This section laid the foundation for this research. The contextual information of the topic was described and the statement of the problem, study background, and variable conceptualization expounded. The chapter also highlighted the study's research questions as well as its scope and significance. Finally, it also stated any existing limitations that the research has.

### 1.1 Background of the Study

Today, continuous improvement serves a vital function in both local and multi-national organizations. The concept is applicable in the day-to-day strict schedules. Its importance to an organization is owed to the emphasis it lays on the customer, flexibility and quality. These attributes (flexibility, quality, and customer-centered management) helps organization to survive competition in both the global and local markets. It also helps the organization to anticipate what will motivate their customers in the future Craswell & Craswell (2017). The skills provided by Continuous Improvement Practices helps in waste elimination and process problem identification, among other areas of management (Ndolvu, 2008).

Dynamic business environments come with the added pressure, especially the public expectations that businesses should be both socially and environmentally responsible. The other pressure to the organization in a dynamic business environment pertains to its awareness that there are risks which need to be mitigated and managed (Bititci et al., 2002). The organizations in such environments also experience a lot of pressure that results from the increased customer demands and expectations. Globalization is the other phenomenon that has transformed the business environments, creating a more dynamic business environment which adds to the pressure that the organizations face in management. The other dynamisms that business organizations face include pressure on cost, resource availability and access, and management expectation (the demands to improve profitability). These dynamisms in the business environments are the key drivers to competitive organizations, Antonelli & Parbonetti (2002).

In recent past decades, numerous models were created and tested by organizations to allow for improvement in customer satisfaction as well as operation and production performance, Antonelli & Parbonetti, (2002). Some of such models are six sigma programs benchmarking, balanced scorecard, lean six sigma, best practices, Total Quality Management (TQM), lean manufacturing practices, and lean thinking, Antonelli & Parbonetti (2002). The utilization of such models has led to the generation of positive outcomes of change and improvement Benner & Tushman, (2003). To excel, management models and managers need to put great effort into the incorporation of business relationship networks of the company. However, these relationships will only succeed as other organizational operations continually improve. Thus, in a market that is still competitive and dynamic, a business may achieve a competitive edge. Antonelli & Parbonetti, (2002).

Continuous progress has the effect of causing management changes as well as stressing the importance of developing organizational principles. It further emphasizes enhancement of organizational methods and capabilities for systematic development and progress review. All these accentuation procedures spotlights on the strategic orientation of transition and improvement behavior, Bttc, et al. (2000). It generates process-oriented thinking strategies in the sense that before better outcomes can be achieved, procedures must be changed, Attaran and Attaran, (2004). It necessitates human capital investment. A driving force behind this is quality improvement of the most efficient and successful organizations, while break-through improvements serve to 'set off' a few critical processes, Bourne, (2001). Performance measurement methods and Continuous Innovation apparatuses have been used in organizations to develop improvement actions relevant to strategic objectives, as well as to monitor results and provide feedback for future actions, Carpnnett and Oko, (2007). The focus of constant change in the goal of the service industry and the public sector is to streamline and improve customer service, Antonelli & Parbonetti, (2002). The issues of continuous improvement and organizational performance are to be investigated in the context of the manufacturing sector in Kenya.

### **1.1.1 Organizational Performance**

Proper organization governance and management that focus on achieving goals must put more emphasis on its mission, vision, and objectives. If the organizational performance can be accounted for, both in non-financial and financial terms, the organization must have attained a higher level of performance. The financial performance of a corporation is calculated by calculating the share sales, Return on Investments and Return on Assets. Additionally, a company's non-financial success is calculated by looking at customer loyalty, new goods, and the effect of the firm's operations on the environment (Sparrow, 2015). However, several academics disagree and assert that there are other stronger performance indicators. For instance, Borg and Gall (2003) argued that innovation development in organizations leads to innovative performance. Bourne (2001) notes that performance can be estimated based on the sale figures, stocks of manufactured goods, and on innovation basis.

Since an organization's success and relevance in both the local and the global markets heavily depends on employee productivity, and the employees' productivity depends on their motivation, managers are making every effort to ensure the parameter (productivity) is in good shape. In improving productivity, the workplace environment has come under vigorous scrutiny, particularly motivation. Bourne (2001) emphasizes that a work place has a dichotomous effect on the employee's productivity – it can either have a positive influence or it can have a negative influence. It touches directly on the morale and the levels of engagement in the organization. This is to imply that employee engagement and morale are affected by the way the workplace environment is designed. Improvement of the productivity needs that the management focuses on facilitating a better employee-organization engagement and morale, Ferrando & Ruggieri, (2018).

Organizational performance describes the achievement of a collection of tasks that are calculated against a set of criteria Hudson & Bourne, (2000). Several performance measurement tools that incorporate aspects in measuring performance have been created. They include things like the balance score card, economic value addition, 360-degree assessment, cleaner production, and so on. The balanced score card proposed by Jürgensen & Curran, (2005) is a framework for measuring organizational performance. The model's assumption is that in order to achieve excellent organizational efficiency, seven components

must be mutually aligned and strengthened. The model can be used to define the elements need to be realigned in order to maximize and sustain good results. According to this model, effective strategy execution requires a focus on seven main elements. The model's premise is that a strong organizational framework is required for strategy execution to be effective. This system is made up of is important to the current study because it acts as a tool that guides managers on implementation of strategies in organizations Kaplan & Norton, (1996).

A balanced score card is useful in turning a company's vision and mission statements into quantifiable and evaluable purpose and performance measures, as well as measures that indicate whether management is producing desired results. Cohen & Prusak, (2001). With an organizations performance being critical for survival in the fiercely contested market, they should focus on continuous improvements in order to prevent waste in terms of time, labor, or material inputs or providing a service that does not add value. Effective and efficient operational systems provide unique instruments, techniques, and methods that can assist a company in lowering costs and achieving just-in-time delivery. Hudson & Bourne, (2000). This study used profitability to measure organizational performance.

### **1.1.2 Continuous Improvement Practices**

Due to intense competition and multiple market sectors, there has been strict policies and measures to ascertain no re-invention of the wheel Wang, (2015). Organizations operate in dynamic and complex business environments which are constantly changing, and the level of competition is rising all the time Bhuiya & Baghel, (2015). Continuous improvement is a quality philosophy that guarantees continuous progress and a workable process that can be tracked for potential improvements as was used by Jurgensen and Curren (2005). All organizations, according to Latnen (2002), need a continuous improvement program known as Rapid Improvement because it aids in the simplification of processes. Organizations with efficient workflows save time and money, resulting in less wasted time and effort. On top of that, they continuously improve their operations. The most effective and competitive companies are motivated by continuous improvement Bourne, (2001).

Organizations need to strive at meeting difficult objectives; they should have a belief of constantly measuring effectiveness of its process in order to satisfy its customers constitute continuous improvement. Continuous improvement can be considered to be the strive to

better products, services or processes. With that we tend to engage “incremental” improvement thereafter “breakthrough” improvement all at once. Continuous improvement should be an all-round event where all employees suggestions, opinions, and methods that can be finally be implemented for improvements. As much as firms would want to remain competitive continuous improvement attracts cost elements such as training of employees, hiring of experts and other hidden costs, which might not be easily realized Bhuiyan & Baghel, (2015).

Since an organization`s success and relevance in both the local and the global markets heavily depends on employee productivity, and the employees` productivity depends on their motivation, managers are making every effort to ensure the parameter (productivity) is in good shape. In improving productivity, the workplace environment has come under vigorous scrutiny, particularly motivation. Brown & Jacqueline (2019) emphasizes that a workplace has a dichotomous effect on the employee`s productivity – it can either have a positive influence or it can have a negative influence. It touches directly on the morale and the levels of engagement in the organization. This is to imply that employee engagement and morale are affected by the way the workplace environment is designed. Improvement of the productivity needs that the management focuses on facilitating a better employee-organization engagement and morale. It revolves around the company's values, norms, recognition and reward systems, and communication between management and employees.

### **1.1.3 Nairobi Bottlers Limited**

Coca-Cola Company was established in 1886 as a soda fountain beverage. The Company had an impressive early growth. After its development, the Coca-Cola Company succeeded and became a famous brand in the world thanks to its powerful bottling system. A 2014 annual report revealed that Coca-Cola had had its highest sales distributed diversely across the world. The United States of America had the highest sale distribution of 42%. Mexico, Nicaragua, Brazil, Japan, and the People's Republic of China accounted for 37% of total sales. Furthermore, 20% of gross sales is spread in the rest of the world. According to the United States Securities and Exchange Commission, gross revenue in 2014 was USD \$ 49.542 billion. The Coca-Cola Business headquarters are in Atlanta, Georgia, USA.

Coca-Cola which runs Nairobi Bottlers Limited became an operational franchise in Kenya in 1948. The new beverage quickly grew in popularity and several other production lines were opened across the country. Nairobi Bottlers later collaborated with the Industrial and Commercial Development Corporation (CDC) in the late 1960s. This was a government of Kenya program to encourage investment. Nairobi Bottlers Limited was purchased from the Coca-Cola Group in November 1995 by and a local investment partner and Coca-Cola South Africa Bottling Company (Sabco). In 2016, Coca Cola Beverage Africa (CCBA) was formed as a result on a merger between Coca Cola Ltd, Coca-Cola South Africa Bottling Company (Pty), and Almagamated Beverages Industry (Pty) SA. Nairobi Bottlers Limited plant is in Embakasi, Embakasi West Constituency, Nairobi County along Airport North road. It directly employs approximately 1,200 people. It is one of the group's largest bottling plants. Kenyan President Uhuru Kenyatta formally opened their state-of-the-art facility in 2018 ([www.coca-cola.co.ke](http://www.coca-cola.co.ke)).

## **1.2 Statement of the Problem**

In the majority of developing countries, especially in Asia, manufacturing industry is the primary cornerstone economic Oakland, (2003). In Kenya, manufacturing industry sector enjoyed an average growth rate of four percent over the last decade KAM, (2014). After agriculture, manufacturing In the year 2000, it was the economy's second largest sub-sector GoK, (2012). As a result, the sector's GDP contribution dropped from 13.6 percent in the early 1990s to 9.2 percent in 2012. (KAM, 2014). Kenya Vision 2030 emphasizes the importance of a sound manufacturing strategy for efficient and long-term operations. However, most manufacturing firms in Kenya operate at about 59 percent technical performance, compared to 74 percent in Malaysia Barasa et al, (2015), raising questions about the sector's ability to achieve Vision's goals.

According to the KAM, (2014), the primary challenges affecting the manufacturing sector in Kenya ranges from scarcity of resources due to high energy prices and inadequate power supply Low level technology and a declining trend of product innovation are two other big challenges. For this reason, manufacturing companies in Kenya are implementing quality management strategies that are beneficial to them in order to improve their performance. As

a result, this research's aim is to look into the role of quality management. in influencing performance among manufacturing companies, with a focus on Kenya.

Wachuka (2013) investigated supply chain management best practices in Kenya's large private commercial banks, finding that lean businesses face problems such as inadequate supplier monitoring and control. According to Currie (2009) an entity should depend on its unique resources during the production process since they are valuable input which can be categorized in various ways such as physical capital, organization capital, and human capital. From the following descriptions, capability can be viewed as technically capacitating methods that enable organizations to perform a task by utilizing its unique resources. In the modern times, hyper-competitive firms are considered to have capabilities that make it possible for them to manage and generate resources. The end result of such management by unique capabilities is massive profit generation. This shows that various aspects of an organizational operations and performance characteristics are greatly influenced by the unique capabilities they possess and not by the industry's structural characteristics. Another study carried out by Opondo (2010) on the influence of technology on organizational performance indicated that firms are faced by quite a number of challenges when trying to adopt lean operational practices.

Some of the challenges included; resistance from employees, non-commitment by management to support lean practices, inadequate technology to support lean operational practices and inadequate resources allocated to support continuous improvements. However, these studies did not concentrate on continuous improvement and organizational performance. The study's results indicate that manufacturing firms in Kenya are doing well. The aim of this study is to see how continuous improvement affects the organizational performance at NBL.

### **1.3 Study Objectives**

#### **1.3.1 General Objectives**

The ultimate purpose of this study was to find out the effect of continuous improvement practices on Nairobi Bottlers Limited's organizational performance.

### **1.3.2 Specific Objectives**

The objectives used to guide the research include the following:

- i) To determine the effect of lean manufacturing on Nairobi Bottlers Limited's organizational performance.
- ii) To investigate how industry best practices affect Nairobi Bottlers Limited's organizational performance.
- iii) To assess the effect of continuous innovation on Nairobi Bottlers Limited's organizational performance.
- iv) To find out the effect of lean supply chain management on Nairobi Bottlers Limited's organizational performance.

### **1.4 Research Questions**

The following questions were used to direct the research:

- i) How does lean manufacturing affect Nairobi Bottlers Limited's organizational performance?
- ii) How does industry best practices affect Nairobi Bottlers Limited's organizational performance?
- iii) How does continuous innovation affect Nairobi Bottlers Limited's organizational performance?
- iv) How does lean supply chain management affect Nairobi Bottlers Limited's organizational performance?

### **1.5 Significance of the Study**

Scholars and managers interested in exploring a similar topic will benefit from the results of this research. Both for-profit and non-profit organizations are looking for ways to improve their organizational productivity. This study is significant to organizations as it describes the impact of the continuous improvement practices on organizational productivity. In giving the managers of the various organizations a better understanding of lean manufacturing, industry best practices, continuous innovation and lean supply chain management the study contributes to framing the unique continuous improvement practices. The results of this study would be beneficial to current and future investors in the beverage and manufacturing sectors, as they will be better prepared to make educated decisions about continuous

improvement practices. Since the study aims to examine the correlation between continuous improvement practices and organizational performance of manufacturing firms, the results would be useful to employees and management of these firms in re-evaluating organizational strategies and implementing a better strategy.

This study calls on the managers to focus on the continuous improvement practices in its entirety as a way of improving productivity. If it is determined that continuous improvement practices has a major effect on organizational productivity. The study also has significance in the academic perspective in which it serves to increase the understanding of the relationship between the continuous improvement practices and organizational productivity. This research would also assist the government in developing policies that will change and have an impact on the continuous improvement practices, resulting in economic growth and development, achievement of the Big Four, and the Vision 2030.

### **1.6 The Study Scope**

The study's aim was to find out the effect of continuous improvement practices on Nairobi Bottlers Limited's organizational performance. The study also focused on lean manufacturing, observation of best industry practices, innovation and lean supply chain management and how the variables affect performance. The study focused on Nairobi Bottlers Limited in Kenya as a representative of all large manufacturing firms in Kenya is a country in Africa. The study's target population was management employees based at the NBL's head offices at Embakasi, Embakasi West Constituency, Nairobi City County along Airport North road. The performance of the beverage manufacturing firm was assessed for the last five years (2014-2018) in Nairobi.

### **1.7 Limitations of the Study**

A limitation is an integral aspect of any study, but over which the researcher has no control. It has the ability to negatively influence the results. One of the common limitations in social science studies is the scope of the study, which sometimes may not allow generalizations. Respondents' unavailability was one of the potential challenges for the researcher. The respondents may be unavailable due to busy work schedules. The researcher overcame such a challenge by booking the organization's management schedules appointments and earlier

meetings with respondents. When administering questionnaires, the researcher often used the drop-off-later method to allow respondent to have enough time to provide thoughtful answers to the study questions. The analysis was constrained by the fact that the data was gathered from people whose subjectivity the researchers couldn't control. Being that the responses were dependent on the respondent's opinion, the data were vulnerable to biases. Secondly, the questionnaire used was closed-ended, and thus respondents could not explain their responses.

### **1.8 Organisation of the Study**

This research was divided into five chapters. Chapter one covered the research's context, problem statement, study goals, study issues, importance of the research, nature of the research, limitations, and study organization. The theoretical literature of the subject, a description of the literature review, research gaps, and the conceptual context was all covered in chapter two. Chapter three addressed research architecture, data collection and analysis, target population, research design, and ethical issues. Chapter four covered the finding and the results of the study while chapter five focused on summary of findings, conclusions and study recommendations.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.0 Introduction

The part included an empirical literature review that includes literature from previous studies conducted by other researchers, a conceptual context that explained how the study variables relate to one another, a description of the literature review, and a research gap that identifies any gaps in the research.

#### 2.1 Theoretical Review

This study was focused on theoretical models that will serve as a basis for the study of organizational success and quality improvement. This research was focused on three theories: resource-based view, stakeholder and system theory.

##### 2.1.1 Resource Based View Theory

According to Prahalad, Hamel and Barney (1990), resource-based view (RBV) is an approach to identify core competencies that are critical for a business to achieve a competitive advantage. The proponents of this viewpoint contend that organizations should scrutinize their internal resources that yield competitive advantage instead of concentrating on competitive environment. Continuous improvement and RBV have commonality in this manner that organizations exist within resources and capabilities that are both limited, as a result, organizations that are surviving will prefer to use these resources in a cost-effective manner. This will be achieved by maintaining optimum levels, which will in turn create competitive advantage. Ultimately, for organization to have distinct competitive advantage, they need to have capabilities, which are rare can produce value, imitable and can be exploited by the organisation (Attaran & Attaran, 2004). For a company to be considered superior, its success should be the product of the accumulation of unique, important, and large resources and capabilities Barney, (1991). This argument was made based on the Resource-Based View. Continuous improvement therefore is a fundamental philosophy focusing on resources that are heterogeneous in nature and that employees can use resources more efficiently and effectively. It provides tailored solutions in resolving specific

organizational problems that are perfectly mobile and can sustain a firm above average returns (Valiris, 2004).

In this research, the resource-based view means that industrial institutions can gain aggressive supremacy by utilizing & optimizing capital internal to them such as human resource, assets, patents, customer data and technology to create more value for their customers. A firm owns resources that can assist to achieve distinctive advantage or superior long-term performance. A firm will achieve competitive advantage by engaging its activities which will in turn increase efficiency or the effectiveness and that are not being adopted by its rivals. It is also worth noting that sustainable competitive advantage occurs when a company's competitors are unable to duplicate its strategy. The resource-based view hypothesis presupposes like not all assets be strategically significant, but that unique, non-quantifiable, valuable, and non-substitutable resources can provide a long-term competitive advantage. For example, each transportation and logistics firm have data that is non-quantifiable. Barney, (1991).

### **2.1.2 Systems Theory**

As proposed by Bologst Ludwig Von Bertalanffy (1928), systems theory offers frameworks to describe and analyze groups of objects. Von Bertalanffy (1956) defines a system as a complex of interacting elements. Von Bertalanffy fosters systems thinking in all disciplines in order to find general principles valid to all systems. It introduces “system” as a new scientific paradigm contrasting the analytical, mechanical paradigm, characterizing classical science (von Bertalanffy, 1950). A fundamental notion of systems theory is its focus on interactions. The center in relationships lead to sustain that the behavior of a single autonomous element is different from its behavior when the element interacts with other elements. Another core tenet is the distinction between open, closed and isolated systems. In open systems there are exchanges of energy, matter, people, and information with the external environment. In closed systems there are no exchanges of information and matter, just exchanges of energy. In isolated system there is no exchange of elements.

Networked systems can be described based on three parameters: variety (possible variance that a phenomenon may present to the observer), variability (variety observed over time) and

indeterminacy (the ability to fully understand a phenomenon) (Barile, 2009; Golinelli, 2010). Starting from these distinctions, it is possible to address the relative concept of complexity, which can be very useful in interpreting systems theory in understanding how continuous improvement practices affect organizational performance (Gell-Mann, 1994; Holland, 1999). They are complex in that they are diverse and made up of multiple interconnected network elements and adaptive in that they have the capacity to change and learn from experience. This study aimed at highlighting the effects of continuous improvement practices on organizational performance. Managers should become familiar with the concept of systems and the associated way of thinking. Managers have to plan structural adjustments to guarantee the survival of the whole system, constantly formulating new interpretations of the business scenarios in order to find an adequate positioning, implementing (when necessary) periods of adjustment, transformation and improvement practices. This adaptive and proactive behavior should be based upon systems theory conceptual pillars in order to promote sustainable and long-lasting organizational performance. Given real-world complexity, systems theory can effectively contribute to organizational performance.

A good example of the suggested integration is found in continuous improvement practices and organizational performance. This study aims to find out how continuous improvement practices and organizational performance at NBL based on systems theory. In this study it an integrative understanding of continuous improvement practices and organizational performance at NBL. Specifically, determine the effect of lean manufacturing, best practices, continuous innovation and lean supply chain management on Nairobi Bottlers Limited's organizational performance within and among service systems, which are complex adaptive systems.

### **2.1.3 Stakeholder Theory**

According to Freeman (1984) a stakeholder is a person or a group of people who are involved in an organization and whose actions influence or are influenced by the achievement of the organization's objectives. Modern companies suit more open and responsible for them to fulfill new, collaborative, & sensitive partnerships in stockholders' chain. The Theory emphasizes the significance of innovation, entrepreneurship, application of technology, and knowledge acquisition by both the organizations and the individual workers. It treats knowledge as a necessary asset for personal growth by the workforce. The

experience is considered to be a growth propellant that is not subject to such restrictions as diminishing returns and such assets as capital. Key stakeholders are categorized in CI based on their participation and interaction with the mechanism that needs to be changed. As a consequence, the larger the activities, a sizeable of essential collaborators are involved.

Persistent dissatisfaction among principal stockholders will drive the company into a crisis, causing it to collapse (According to Clarkson (1995)). Building a trust relationship, on the other hand, can significantly reduce costs and, as a result, have an impact on efficiency. The theory ensures that the organizations in question are serving the functions for which they were established through the evaluations. Clarkson's argument ignores the moral foundations of the stockholder theory and the practice of farness. The theory does not mean that all stockholders should have a fair say in decision-making (Donaldson et al., 1995). Organizations can enhance these capabilities by formulating the right strategies that are aligned to its vision, mission and goals. In organizations whose main goal is to make profits, these capabilities should be aligned within the operational cost so as to minimize on cost implications which are unnecessary to the organization. As a result, the theory aids in the development of a framework for defining relationship between the various needs of crucial collaborators within the CI undertaking.

## **2.2 Emperical Literature**

This next section focused on the available literature on the variable of the variables of the study.

### **2.2.1 Lean Manufacturing and Organizational Performance**

Wachuka (2013) conducted a report on the Kazen sustainability and operational efficiency of manufacturing firms in Mombasa County. A total of 15 manufacturing firms from various sectors formed the study population. Her findings revealed that continuous improvement and organizational culture go hand in hand as they strive for excellence by reduction of cost, in turn increase productivity, employees' retention as a result of doing the right thing.

Kathaara (2014) inspected the absolute quality organization activities and organizational efficiency of Kenyan business banks Assessment of all the 43 business banks were taken in

this study. The study used data which was assembled through a composed survey to assemble the destinations of the study via Likert scale of five points. The review questions focused on absolute quality administration practices, utilization, and operational execution of the Kenyan business banks. The questionnaire was both open ended and close ended. The results revealed that quality organization practices were earnestly related to an operational execution of business banks in Kenya. The study further established that lean operations enhanced firm performance and profitability.

Oprime, et al. (2012) did a survey on the important elements that must be present for quality improvement activities to be effective. The findings showed that leadership, employee involvement, lean operations (efficiency), reward and support motivation, problem solution models and skills cooperation and integration are among the critical success factors necessary for continuous improvement activities. This study differs from present study since it analyzed success factors in continuous improvement implementation where as the most recent research establishes a connection between quality improvement and organizational efficiency. Fryer, et al. (2007) investigated the crucial performance factors of public sector continuous improvement. Management communication, customer management, lean operations, supplier management, communication, training, and employee empowerment. This study just like Oprime et al. (2012) differ from present study since it analyzed success factors in continuous improvement implementation whereas the current study establishes a link between continuous improvement and operational efficiency. The was in the public sector, but currently in the manufacturing sector.

### **2.2.2 Best Industry Practices and Organizational Performance**

Corporations depend on their clients and, therefore should be aware of the trending patron needs. They need to constantly meet the needs of the consumer and still strive to perform above the patron expectancies. Kangethe (2013) notes that the elements require businesses to recognize what the clients need and make an effort to create an environment within the company to address the need. Each of these environmental factors has a direct impact on employee interaction with the company and the contract, either positively or negatively. For instance, where good policies exist, employees are secure and motivated. For a corporation to be successful, it must align their operational practices to what the client needs.

Muriithi (2014) investigated Kenyan commercial banks' continued improvement approaches and operational efficiency. Her study discovered that quality improvement acts as a benchmark for workers to seek out new ways in order to deliver exceptional products to clients, resulting in a good relation betwixt continuous improvement and customer satisfaction. Whereas this study focused on continuous improvement methods and tools for applying continuous improvement, it ignored the relationship between continuous improvement and manufacturing firm efficiency, which the current study sought to fill.

Mwaniki and Obiri (2014) study was on the effects of TQM and bank performance in dealing with a record deposit: a logical review of the Kenyan National Bank This was to establish how TQM foundations, in particular supplier relationship, customer relationship, process, and top organization communication, relate to the bank's results. The disclosures of the analysis exhibited a affirmative relationship amid top organization consideration, strategy, and supplier relationship and monetary execution.

### **2.2.3 Innovation and Organizational Performance**

In their study Hassin, Mukhtar & Shariff (2012) reviewed the connection between quality organization practices and presentation, i.e. value, business, as well as legitimate execution. The quantitative data was traversed research from 171 Pakistani manufacturing industry quality directors. This research supports the hypothesis that high-quality organizational systems have a clear impact on efficiency. Efficiency organization structures, instruments, and strategies as well as behavioral variables (Fact-based-organization, top organization's dedication to quality, labor concern, and customer focus) added to the mix. According to the research, efficient assignment and utilization of quality organization structures sharpens results in improving organization execution. The essential implications of the revelatons for executives are that quality organization manufacturing organizations can presumably perform better executon in buyer dedcaton, employees relatons, quality, and business organization structures improves (Hassin, Mukhtar & Shariff M. (2012).

According to Mwaniki and Obiri (2014) their study was focused on showing how the TQM pillars, suppler relationship, customer relationship, processes, and top management connecton, recount to fiscal presentation. The four pillars of TQM formed the study's

autonomous variables, even as economic performance became the dependent variable. These variables were calculated to fill the gap in knowledge about how implementing TQM in Kenya's countrywide bank affects overall financial performance. This research was descriptive in character and the scholar employed case study methodology. The target audience consisted of NBK personnel. The researcher used stratified random sampling in deciding on respondents. The findings revealed a positive correlation between top management involvement, process, and contractor relationships, as well as financial execution. Customer emphasis, on the other hand, adversely affected financial performance (Mwaniki & Obiri,2014).

According to Mehra (2001) quality will depend on what is demanded by the customer and its also dictated by the dynamics in the market. Chong & Rendus (2004) indicate that when organization focus on at all cost in processes and production will improve as well as the quality of service, the ultimate goal will be customers will be satisfied. Therefore, the focus on quality throughout the organization should be the main principle on continuous improvement. In general quality has no definite definition; however, the further states that the focus on quality is on meeting the needs and requirements of the clientele in addition to high and standard quality products. Without improvement, organizations are unable to react to changes in their internal as well as external environs therefore it is important for firms to maintain status of present levels in terms of performance in order to create new opportunities. Benefits that accrue from adopting quality improvement programs are enhanced performance and processes improved organizational capabilities which result to a happy and satisfied customer, developed focus especially on the on root-cause analysis and determination, protective and remedial actions, improved, the extent to which we anticipate and be able to react to risks and opportunities both internal and external.

#### **2.2.4 Lean Supply Chain Management and Organizational Performance**

Kathaara, (2014) discovered that Total quality management enhances operation effectiveness in this manner lessening operation cost. Consequently the usage of quality management frameworks has expanded bank gainfulness, upgraded deals, expanded bank aggressiveness and brought about obtaining of greater piece of the overall industry, upgraded administration conveyance in the bank, guaranteed successful waste lessening in operations, enhanced

operation productivity accordingly decreasing operation costs and expanded client maintenance as an after effect of consumer loyalty. The study set up that bank administration rehearses influence the operational performance of banks. There is a positive critical relationship of measure of inside and outside clients' needs, concentrate on client necessities and objection resolutions connected to practices of TQM affecting organization performance (Ferning, Amaria, & Frempong, 2013).

Consequently, the usage of quality management frameworks has expanded bank gainfulness, decreasing operation costs and expanded client maintenance as an after-effect of consumer loyalty (Kathaara, 2014). There is a positive noteworthy relationship of worker contribution, representative fulfilment, worker acknowledgment and a worker utilizing quality control apparatuses for procedure control and change connected to practices of TQM affecting organization performance (Ferning, Amaria, & Frempong, 2013). Quality key practices has given an instrument to bank directors to shape their outer business environment, limit dangers, exploit opportunities and empower to react to quality issues proactively. Moreover quality vital practices have encouraged the working of banks centre abilities and fortifying the boycott intensity empowering it to convey compelling administrations to clients. The study discovered that representative strengthening rehearses impacts operation performance of banks. The discoveries of the study demonstrates that usage of quality administration has influenced representatives personal satisfaction, bank spends workers at all levels have the obligation and power to settle on choices that nfluence them and their work groups, quality admnstration frameworks have advanced their (Kathaara, 2014).

There is boundless inclusion and correspondence to representatives on all matters that worry their occupation and organization performance, reward frameworks that bolster worker execution, interest, activity and encouraging of collaboration have been initiated in the bank makes methodologies, arrangements and frameworks for accomplishing unrivalled quality in the establishment and that has motivated staff and administration in compelling and productive utilization of the assets and endeavors of the organization towards quality perfection (Kathaara, 2014). Quality organization as a top administration advance, it is the task of direction to put into practice the value. The rationale of this investigate was to test out. Do the management manners have an effect on the achievement of quality organization?

In the methodology 180 managers were functioning under the practical head, advertising and HR divisions were taken as a sample. Information was composed through questionnaire. Proposition of the study is that the manners of management in an association are certainly interconnected to the accomplishment of TQM and the substitute hypothesis is supported by the consequences and null hypothesis was rejected. As a result it is proven that the management in any business has a strong impact on the value administration. The objective was to evaluate five factors which are further imperative for the value administration effectiveness, control and administration obligation, member of staff and person involvement, general community contribution, and uninterrupted improvement. This expose is about the impact of value supervision on the leadership. Management responsibility is very significant for the accomplishment of quality administration. Constant enhancement is mainly vital element of the value administration if the presentation principles go up constantly value can be achieved in a improved way. Member of staff empowerment and management are the two most significant essentials of the quality administration in organizations (Samia, 2015).

Muteti (2014) conducted research in Kenya on small and medium-sized manufacturing firms' continuous improvement and operational performance. The researcher deduced from the results of the analysis that continuous improvement and quality management programs have resulted in better marketing management processes, improved customer relations management, increased productivity and minimal customer complaints. This research focused on continuous improvement approaches and tools for implementing continuous improvement, but it ignored the relationship between continuous improvement and organizational efficiency, which was the aim of the previous study. In addition, this study focused on the connection between continuous improvement and quality management programs whereas the present study analyzes the link between continuous improvement and organizational performance.

### 2.3 Research Gaps

This part pinpoints disparities to be addressed my study.

**Table 2.1: Research Gaps**

Researcher	Subject	Observations	Disparity
Wachuka (2013)	A survey on Kaizen manufacturing firms' long-term viability and operational performance in Mombasa County	Continuous improvement and organizational culture are necessary as they aim to achieve excellence through education. reduction of cost, in turn increase productivity, employees' retention as a result of doing the right thing	The study focused on sustainability of Continuous improvement while the current study is on the effect it has on performance. The research was based on firms in Mombasa County while the current is a case of NBL
Kathaara (2014)	Complete quality organizational practices and operational performance of Kenyan business banks	Quality organization practices were earnestly related to an operational execution of business banks in Kenya and that lean operations enhanced firm performance and profitability	The study was focused on TQM and performance of banks while the current study is on one aspect of TQM (Kaizen) on performance of NBL
Oprime, Sousa, Mendes and Primenta (2012)	Factors necessary for success of continuous improvement activities	Leadership, employee involvement, lean operations (efficiency), reward and support motivation, problem solution models and skills cooperation and integration are among the essential performance factors necessary for continued improvement	It analyzed success factors in continuous improvement implementation.
Fryer (2007)	Constant enhancement in the public sector has critical success drivers.	Customer management, lean operations, management commitment, training, supplier management, employee empowerment, communication and learning are the main CSFs in the	The research only assessed the CSFs and did not indicate their effect on performance. The study was done in public sector whereas the present research is done

		public sector	in the manufacturing sector.
Irfan, Kee and Awan (2012)	Improving Operational performance of Public Hospital in Pakistan	Quality organization structures practices has a tremendous constructive outcome on quality organization systems execution besides on operational execution to the extent extended flexibility, improved nature of organizations	The study suggested CI as one of the ways of improving operational performance of but didn't show the independent influence of CI on improvement. This was on health sector in Pakistan while the current is on the manufacturing sector in Kenya
Mwaniki and Obiri (2014)	Total Quality Management's impact on Bank Results in dealing with a record division: A logical examination of the NBK	Disclosures of the analysis exhibited a affirmative relationship amid top organization consideration, strategy, and supplier relationship and monetary execution.	The study focused on budgetary execution at the NBK while the current ones focused on CI and organizational performance of NBL

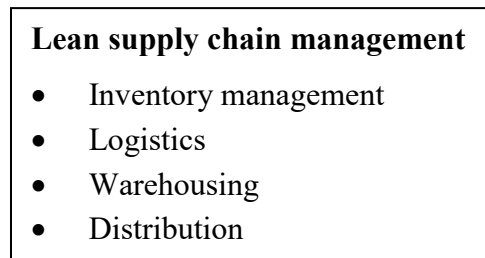
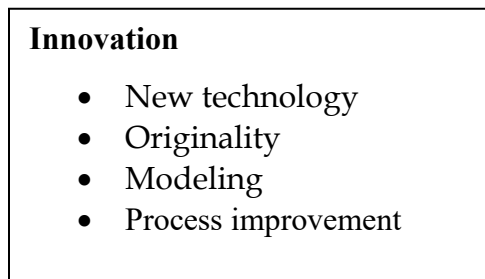
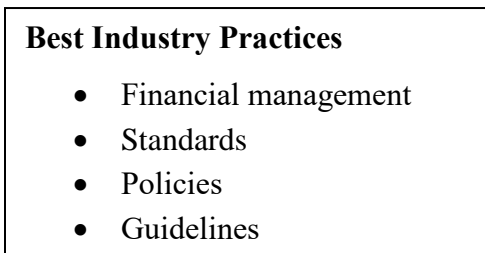
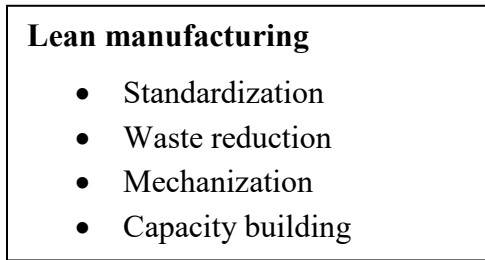
**Source: Researcher and Literature Reviewed**

## 2.4 Conceptual Framework

Conceptual framework defined the expectations of my study and objectives. This section examined the dependent variable's output of NBL and Independent Variables include lean manufacturing, best industry practices, innovation and lean supply chain management. The relationship between the dependent and the dependent differs, as seen in the diagram below:

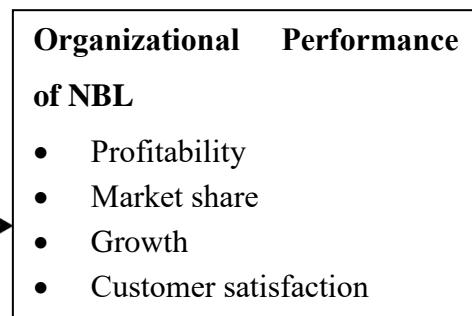
**Independent Variables**

**Continuous Improvement**



**Dependent Variable**

**Organizational Performance**



**Figure 2.1: Conceptual Framework**

**Source: Researcher, 2020**

## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.0 Introduction

This chapter explained methods utilized to conduct the research and provide answers to the research questions. It included research architecture, data collection methods, sampling procedures, research instrument validity and reliability, in addition to, ethical concerns.

#### 3.1 Research Design

It is a comprehensive research scheme that describes methods, in addition to, procedures to be used to collect data, to review, and report the results, according to Lewis (2015). This analysis used descriptive research design to assess the influence of quality improvement on Nairobi Bottlers Limited's organizational efficiency. This design was important in the determination of such answers relating to social demographics (Mugenda & Mugenda 2003). The design helped in giving outcomes to the questions in the research. Cooper and Schindler (2003) assert that the design is suited to social scientists.

#### 3.2 Target Population

The members of a group that share the same traits are known as the target population (Barasa et al, 2015). According to NBL Human Resources office (2018), there are 308 management staff in its Nairobi headquarters. As a result, the study's target population included top, middle, and lower-level management personnel from around the firm's divisions. As a result, the target population was total 308.

**Table 3.1: Target Population**

Level of Management	Target Population	Percentage
Top management	6	2
Middle level management	87	28
Lower level management	215	70
Total	308	100

**Source: NBL, 2019**

#### 3.3 Sampling Technique and Sample Size

The study used stratified random sampling technique to construct a sample. A survey of 20-30% of a population is sufficient, according to Mugenda and Mugenda (2003). Therefore the

study selected 30% of each stratum to form a sample size of 108 respondents who were even spread across the three levels of management as presented below;

**Table 3.2: Sample Size**

Level of Management	Target Population	%	Sample Size
Top management	6	30	2
Middle level management	87	30	26
Lower level management	215	30	65
Total	308	30	93

**Source: Researcher, 2020**

### **3.4 Data Collection Instruments**

The study used structured questionnaires in collecting data for the study. According to Creswell, Kaushal, and Singh (2017), a questionnaire is a method used to collect data needed to address research questions. The questionnaire was used to gather primary statistics that are quantitative. Structured was used to obtain the information. The questionnaire in the mail was administered in advance to the respondents and obtained later. The questionnaire was designed as closed-ended (Kapadia, Shah, Murro&Park, 2016).

### **3.5 Reliability and Validity of research instruments**

In this section, a pilot study was conducted in order to measure the accuracy and efficiency of the instrument.

#### **3.5.1 Validity of Research Instruments**

This is the mean the accuracy with which a research instruments achieves the intended function. To measure the sustainability of issues in actual data, internal validity was used. Content and construct validity was applied. Content validity was measured by subjecting the questionnaire to expert judgment. Construct validity was measured by ensuring that variables are operationalized as they are documented by other researchers in previous studies (Yin, 2017).

#### **3.5.2 Reliability of the Instruments**

The consistency of the instruments used in research is calculated by reliability. The Cronbach alpha coefficient was used to assess accuracy. This is the tool that is widely used in

measuring the reliability of the research instruments in social sciences (Yin, 2017). A coefficient value of over 0.7 indicates that the query is accurate and therefore suitable for use in the analysis (Tavakol & Dennick,2011).

### **3.6 Data Collection Procedures**

Before starting collection of data, the researcher requested approval from the graduate school and permission from NACOSTI. The researcher then contacted all of the study's respondents via the Nairobi Bottlers Limited's management in order to inform them of the data collection dates. The researcher then self-admitted the questions with an attachment of a letter of approval from the school explaining the study's intent pilot study

The researcher performed a pilot test in order to eliminate bias in the framing of data instruments and the formulation of research questions. A sample of 1% all through to 10% can be utilized as far as pilot testing of the study tools is concerned (Yin, 2017).

For this reason, the researcher who conducted the questionnaire in the target area performed a pilot test. To remove bias, respondents who was interested in the pilot analysis was not included in the sample size when collecting data. Questions that tend to be applicable during the plot review will be omitted from the final questionnaire.

### **3.7 Data Presentation and Analysis**

Quantitative data was obtained. To view quantitative data, descriptive and inferential statistics was used. Quantitative data collected was presented through means, percentages, range and correlation coefficients, standard deviations, and frequencies. This was done by tallying up responses and applying SPSS (Version 23.0) to for the computations.

The following regression models was helpful in determination of the effect of continuous improvement on performance:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where: - Y = Organizational Performance of NBL

X<sub>1</sub> = Lean manufacturing

X<sub>2</sub>= Industry practices

X<sub>3</sub>=Innovation

X<sub>4</sub>=Lean supply chain management

$\beta_0$  = Intercept,

$\beta_1, \beta_2, \beta_3,$  and  $\beta_4$  = Beta coefficient

$\varepsilon$  = error term.

### **3.8 Ethical Considerations**

This refers to the guide and acceptable rules that bind the researcher to comply with the laws and other regulations of the land. And right to privacy. The key ethical concerns that were discussed in the study are obtaining informed consent from participants and ensuring confidentiality. Before any data was collected, respondents were given the opportunity to give their informed consent, and only those who choose to participate were contacted. The researcher also notified and assured the respondents about the privacy of the volunteered information and their names. The researcher sought authorization and approval from Graduate School and NACOSTI respectively before embarking on research.

### **3.9 Reliability of the Instruments Results**

Cronbach's alpha was used to test the reliability of the measures in the questionnaire. According to Sekaran (2003); Cooper and Schindler (2003), Cronbach's alpha has the most utility for multi-item scales at the interval level of measurement, requires only a single administration and provides a unique, quantitative estimate of the internal consistency of a scale. Stevens (2002) indicated 0.7 to be an acceptable reliability coefficient but lower thresholds were sometimes used in the literature. This study used a cut mark of 0.7.

## CHAPTER FOUR

### RESULTS AND FINDINGS

#### 4.1 Introduction

This chapter comprises of data analysis, findings and interpretation. Results are presented in tables and diagrams. The data has been analyzed using descriptive statistics to generate means and frequencies of responses, and inferential statistics to determine the relationship of the variables under study. The analyzed data was arranged under themes that reflect the research objectives.

#### 4.2 Response Rate

The number of questionnaires that were administered was 108. A total of 108 questionnaires were properly filled and returned. This represented an overall successful response rate of 100% as shown on Table 4.1. According to Mugenda and Mugenda, (2003) and also Kothari, (2004) a response rate of 50% is adequate for a descriptive study. Babbie, (2004) also asserted that return rates of 50% are acceptable to analyze and publish, 60% is good and 70% is very good. Based on these assertions from renowned scholars 80 % response rate is adequate for the study.

**Table 4.1: Response Rate**

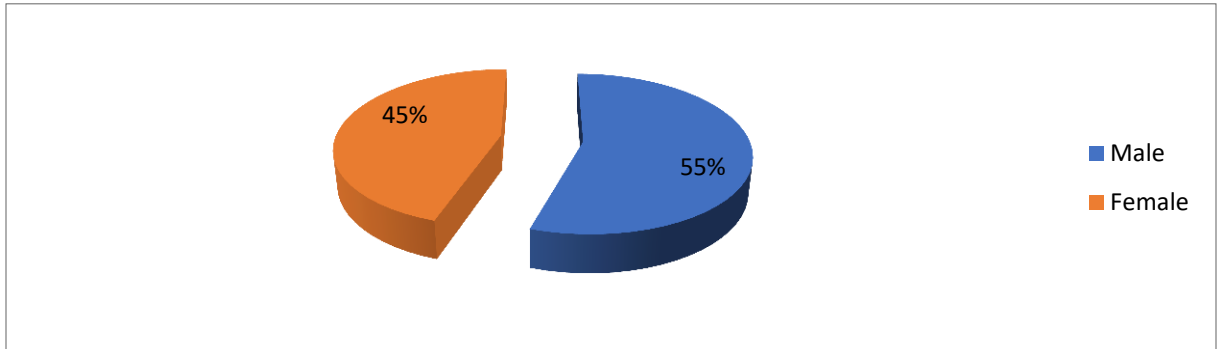
<b>Response</b>	<b>Frequency</b>	<b>Percent</b>
Returned	108	100%
Unreturned	0	0%
<b>Total</b>	<b>108</b>	<b>100%</b>

#### 4.3 Demographic Characteristics

This section presents the descriptions of the respondents in terms of their gender, age, the number of years they have worked at NBL, position held at NBL and level of education.

### 4.3.1 Gender

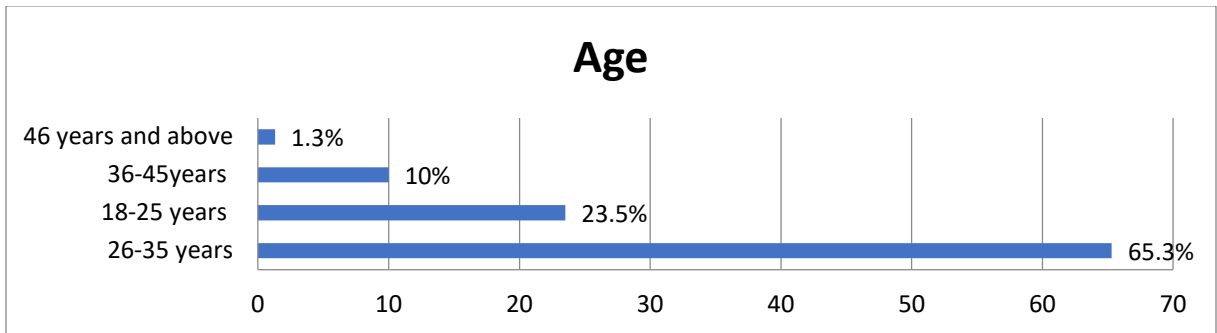
The respondents were asked to indicate their gender. Majority of the respondents were male who represented 55% of the sample while 45% was female as shown in figure 4.1 below indicating that majority of the management employees were of male gender.



**Figure 4.1: Gender of Respondents**

### 4.3.2 Age

The respondents were asked to indicate their age. Majority of the respondents were between 26-35 years as represented by 65.3%, 23.5% were between 18-25 years, 10% were between 36-45 years, while 5% were 46 years and above as shown in figure 4.2 below indicating that majority of the respondents were young people.

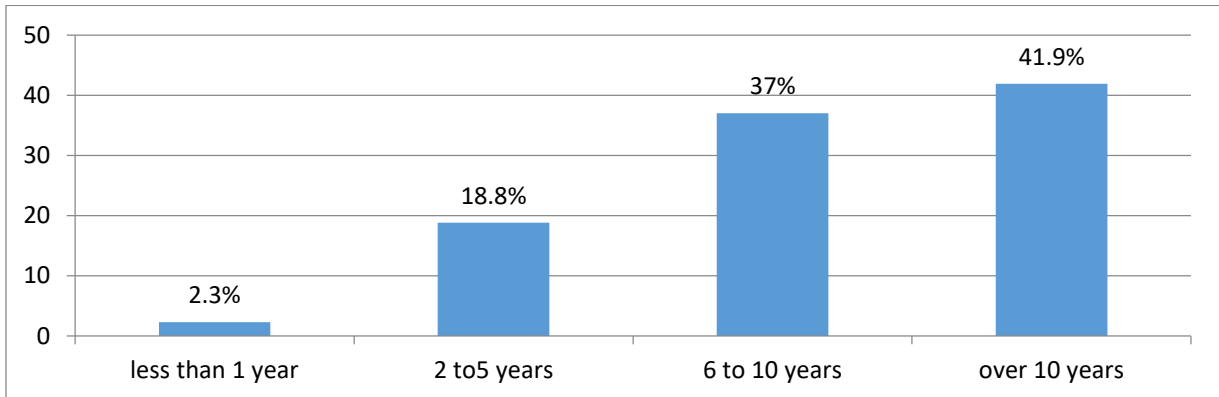


**Figure 4.2: Age of Respondents**

### 4.3.2 Years worked at NBL

The respondents were asked to indicate the years they had at NBL. Majority of the respondents had over 10 years working experience at NBL as represented by 41.9%, 37% had had 6 years to 10 years working experience at NBL, 18.8% had 2 years to 5 years working experience at NBL, while only 2.3% had less than 1 year working experience at

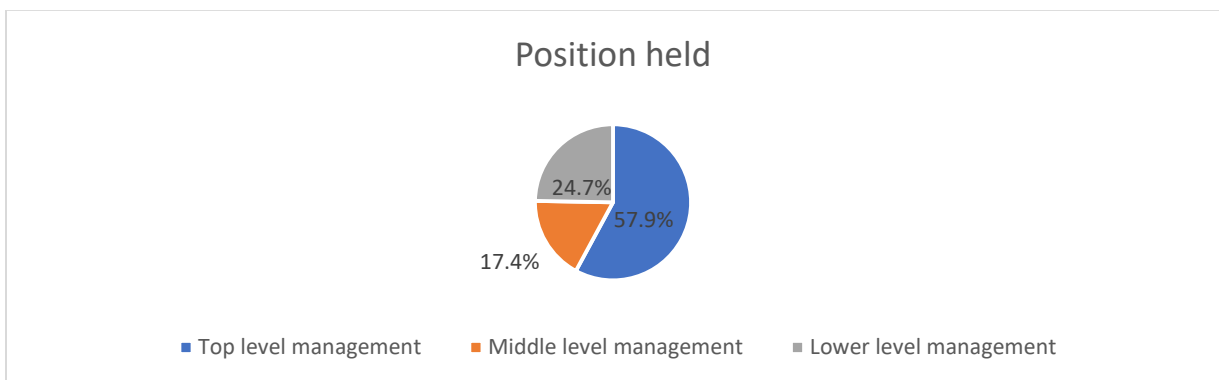
NBL as shown in figure 4.3 below indicating that the directors at NBL considered the employees with more than 10 years work experience with NBL for management positions.



**Figure 4.3: Years worked at NBL**

### 4.3.3 Position Held

The respondents were asked to indicate the position they held at NBL. Majority of the respondents held top management positions at NBL as represented by 57.9%, 24.7% held lower-level management positions at NBL, 17.4% middle-level management positions at NBL, as shown in figure 4.4 below indicating that top level management employees were available to participate in the study.

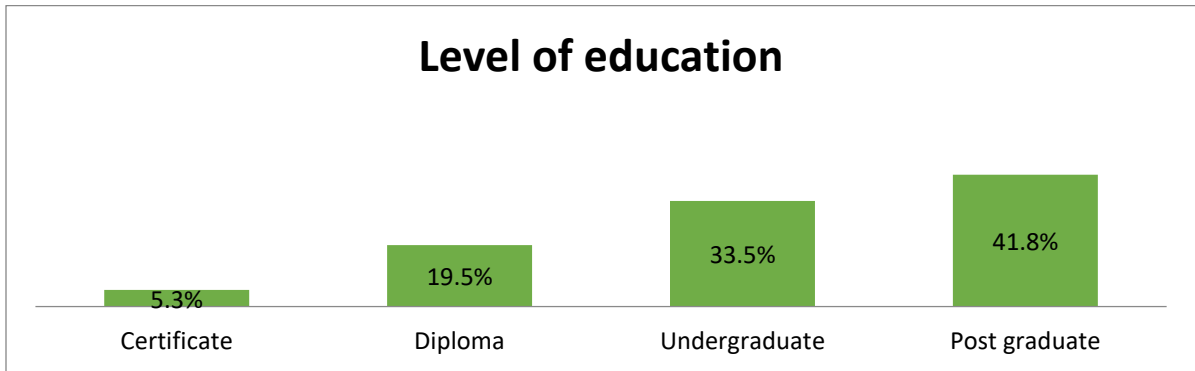


**Figure 4.4: Position Held**

### 4.3.4 Level of Education

The respondents were asked to indicate their level of education. Majority of the respondents had acquired up to post graduate degree level of education as represented by 41.8%, 33.5%

had undergraduate level of education, 19.5% had Diploma level of education, while only 5.3% had certificate level of education as shown in figure 4.5 below implying that the post graduate employees were easily promoted to management level at NBL.



**Figure 4.5: Level of Education**

## 4.4 Continuous Improvement Practices and Organizational Performance

### 4.4.1 Lean Manufacturing

To determine the lean manufacturing factors at Nairobi Bottlers Limited respondents were asked to rate the factors on a likert scale of 1 to 5; (1; strongly agree, 2; agree, 3; neutral, 4; disagree, 5; strongly disagree). Majority (90.6%) of the respondents agreed standardization of products was used by Nairobi Bottlers Limited and supported by a mean of 4.09, 85.8% of the respondents agreed that waste reduction procedures was embraced by NBL and supported by a mean of 4.07, 62% of the respondents agreed mechanization of the production line was used by NBL and supported by a mean of 3.56 and 54.3% of the respondents agreed that capacity building among staff and system was embraced by NBL and supported by a mean of 3.42 as indicated in the table 4.2 below.

**Table 4.2: Lean Manufacturing**

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	Std. Deviation
Standardization of products	23.3	67.3	4.5	5		4.09	0.686
Waste reduction procedures	27.3	58.5	8	6.3		4.07	0.774
Mechanization of the production line	14	48	18	20		3.56	0.964
Capacity building among staff and system	13.3	41	20.5	25.3		3.42	1.008

#### 4.4.2 Industry Best Practices and Organizational Performance

To investigate the industry best practices at Nairobi Bottlers Limited respondents were asked to rate the lean manufacturing factors on a likert scale of 1 to 5; (1; strongly agree, 2; agree, 3; neutral, 4; disagree, 5; strongly disagree). Majority (52.3%) of the respondents agreed that fair and diligent financial management was use by NBL and supported by a mean of 3.42, 68.6% of the respondents agreed that observance of management and industry standards was used by NBL and supported by a mean of 3.4, while 59.8% of the respondents agreed that adherence to firm and legal policies and procedures was embraced by NBL and supported by a mean of 3.33. Sixty-five-point eight percent of the respondents agreed that adherence to firm and legal policies and procedures was used at NBL and supported by a mean of 3.32 and 65.8% of the respondents agreed that the standard procedures and guidelines are observed in production and distribution was used by NBL and supported by a mean of 3.29 as indicated in table 4.3 below.

**Table 4.3: Industry Best Practices**

<b>Statement</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Mean</b>	<b>Std. Deviation</b>
Fair and diligent Financial Management	23.8	28.5	13.5	34.3		3.42	1.186
Observance of management and industry standards	1.3	67.3	13	7.5	11	3.4	1.038
Adherence to firm and legal policies and procedures	9.3	56.5	17.5	12.7	4	3.33	1.051
The standard procedures and guidelines are observed in production and distribution	1.5	64.3	13.5	6	14.8	3.32	1.12

#### 4.4.3 Innovation and Organizational Performance

Table 4.4 below shows the results of continuous innovation factors used in NBL. The respondents were asked to rate the factors on a scale of 1 to 5; (1; strongly agree, 2; agree, 3; neutral, 4; disagree, 5; strongly disagree). Fifty nine point five percent of the respondents agreed that use of modern and new technology is used by NBL and supported by a mean of 3.4, 65.8% of the respondents agreed that originality is embraced by NBL and supported by

a mean of 3.39, 66% of the respondents said that use of models to guide production process was eminent at NBL as supported by a mean of 3.38 and 57.3% of the respondents said that integrated and continuous process improvement was used at NBL as indicated by a mean of 3.13.

**Table 4.4: Innovation**

<b>Statement</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Mean</b>	<b>Std. Deviation</b>
Use of modern and new technology	14.5	45	11.5	23.8	5.3	3.4	1.15
Originality	3.3	62.5	12.8	12.5	9	3.39	1.046
Use of models to guide production process	2.5	63.5	13.3	10.8	10	3.38	1.05
Integrated and continuous process improvement	5	52.3	5.8	24.3	12.8	3.13	1.21

#### 4.4.4 Lean Supply Chain Management and Organizational Performance

The results in table 4.5 below shows the lean supply chain management factors employed by NBL. The lean supply chain management factors were ranked on a scale of 1 to 5; (1; strongly agree, 2; agree, 3; neutral, 4; disagree, 5; strongly disagree). Sixty-nine-point three percent of the respondents agreed that effective inventory management was present at NBL and supported by a mean of 3.31 while 60.3% of the respondents said that efficient logistics management was present at NBL and supported by a mean of 3.29. Majority (66.5%) of the respondents said that controlled and organized warehousing was embraced by NBL and supported by a mean of 3.29 and 60.8% of the respondents agreed that effective distribution modes and means was used by NBL and supported by a mean of 3.14.

**Table 4.5: Lean Supply Chain Management**

<b>Statement</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Mean</b>	<b>Std. Deviation</b>
Effective inventory management	0.5	68.8	7.8	6.8	16.3	3.31	1.156
Efficient logistics management	3.5	56.8	16.5	11.8	11.5	3.29	1.097
Controlled and organized warehousing	0.5	66	12	4.8	16.8	3.29	1.148
Effective distribution modes and means	1.5	59.3	11	7.8	20.5	3.14	1.239

#### 4.4.5 Organizational Performance

The results in table 4.6 below shows the performance factors at NBL between the year 2014 and 2018. The factors were ranked on a scale of 1 to 5; (1; strongly agree, 2; agree, 3; neutral, 4; disagree, 5; strongly disagree). Eighty-seven-point eight percent of the respondents agreed that profitability was a factor of performance at NBL and supported by a mean of 4.13 while 83.2% of the respondents said that market share was a facore of performance at NBL and supported by a mean of 4.11. Majority (80.7%) of the respondents said that growth in scale and size was a factor of performance at NBL and supported by a mean of 3.96, 89.7% of the respondents agreed that employee output was employed as a measure of performance at NBL and supported by a mean of 4.43 and 85.8% of the respondents agreed that efficiency was employed as a measure of performance at NBL and supported by a mean of 4.29.

**Table 4.6: Performance**

<b>Statement</b>	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>	<b>Mean</b>	<b>Std. Deviation</b>
Profitability	33.1	54.7	4.8	7.2	0.3	4.13	0.822
Market share	39.6	43.6	6.7	8.8	1.3	4.11	0.962
Growth in scale and size	32.8	47.9	4.6	14.2	3.8	3.96	0.131
Employee output	15.7	74	8.3	12		4.43	0.833
Efficiency	80	5.8	9.1	5.1		4.29	0.062

#### 4.5 The Overall Regression Model

The results in table 4.7 below present the fitness of model used in the regression model to explain the study phenomena. Continous improvement practices (lean manufacturing, industry best practices, continuous innovation and lean supply chain management) explained 73.6% of the performance at NBL. This is supported by coefficient of determination also known as the R square of 73.6%. This means that continous improvement practices selected for this study explain 73.6% of the performance at NBL and 26.4% of the performance at NBL are explained by other factors outside the study.

**Table 4.7: Model Fitness for the Overall Model**

<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
0.752	0.736	-0.012	49.923

Table 4.8 below provides the results on the analysis of the variance (ANOVA). The results indicate that the overall model was statistically significant as supported by a p value of 0.000 which is less than the critical p value of 0.05. The  $F_{cal}=26.479 > F_{critical} =2.4599$  at  $\alpha$  0.05 which imply that continuous improvement practices (lean manufacturing, industry best practices, continuous innovation and lean supply chain management) are good predictors of the performance at NBL.

**Table 4.8: Analysis of Variance for the Overall Model**

	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	38.982	12	1347.719	26.479	0.000
Residual	31.875	95	1759.395		
Total	70.857	107			

Regression of coefficients results in table 4.9 below shows that there is a positive and significant relationship between continuous improvement practices (lean manufacturing, industry best practices, continuous innovation and lean supply chain management) and performance at NBL as supported by beta coefficient 3.675, 2.932, 1.624 and 1.463 respectively. This was also supported by the t values whereby  $T_{cal}=4.123, 3.148, 2.265, 5.548 > T_{critical} =1.96$  at a 95 percent confidence level which depicts that there are continuous improvement practices that explain performance at NBL.

This implies that an increase in lean manufacturing by one unit would increase the performance at NBL by 3.675 units. It implies that an increase in industry best practices by one unit would increase the performance at NBL by 2.932 units. The results implies that an increase in continuous innovation by one unit would increase the performance at NBL by 1.624 units. This implies that an increase in lean supply chain management by one unit would increase the performance at NBL by 1.463 units.

**Table 4.9: Regression of Coefficients for the Overall Model**

	$\beta$	Std. Error	t	Sig.
(Constant)	7.128	19.652	0.214	0.002
Lean manufacturing	3.675	3.763	4.123	0
Industry best practices	2.932	4.177	3.148	0
Continuous innovation	1.624	4.67	2.265	0
Lean supply chain management	1.463	0.065	5.548	0.002

Organizational Performance at NBL = 7.128+3.675Lean manufacturing + 2.932Industry best practices +1.624 Continuous innovation + 1.46Lean supply chain management.

#### 4.6 Discussion of Findings

This study found out that continuous improvement practices (lean manufacturing, industry best practices, continuous innovation and lean supply chain management) explained 73.6% of the performance at NBL. This is supported by coefficient of determination also known as the R square of 73.6%. This agreed with Wachuka (2013) whose findings revealed that continuous improvement and organizational performance go hand in hand as they strive for excellence by reduction of cost, in turn increase productivity, employees' retention as a result of doing the right thing. The analysis of the variance (ANOVA) results indicate that the overall model was statistically significant as supported by a p value of 0.000 which is less than the critical p value of 0.05. The  $F_{cal}=26.479 > F_{critical}=2.4599$  at  $\alpha$  0.05 which imply that continuous improvement practices (lean manufacturing, industry best practices, continuous innovation and lean supply chain management) are good predictors of the performance at NBL agreeing with the findings of Muteti (2014) who conducted research in Kenya on small and medium-sized manufacturing firms' continuous improvement and operational performance. The researcher deduced from the results of the analysis that continuous improvement and quality management programs have resulted in better marketing management processes, improved customer relations management, increased productivity and minimal customer complaints. The findings are supported by Resource-Based view theory, which asserts that for a company to be considered superior; its success should be the product of the accumulation of unique, important, and large resources and capabilities (Barney, 1991). Continuous improvement therefore is a fundamental philosophy focusing on resources that are heterogeneous in nature while employees can use resources more efficiently and effectively.

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter finalizes the study by providing the summary of findings, conclusions and recommendations. The conclusions and recommendations are aligned to the specific objectives of the study.

#### 5.2 Summary of Findings

##### 5.2.1 Lean Manufacturing

Majority (90.6%) of the respondents agreed standardization of products was used by Nairobi Bottlers Limited and supported by a mean of 4.09, 85.8% of the respondents agreed that waste reduction procedures was embraced by NBL and supported by a mean of 4.07, 62% of the respondents agreed mechanization of the production line was used by NBL and supported by a mean of 3.56 and 54.3% of the respondents agreed that capacity building among staff and system was embraced by NBL and supported by a mean of 3.42.

##### 5.2.2 Industry Best Practices

Majority (52.3%) of the respondents agreed that fair and diligent financial management was use by NBL and supported by a mean of 3.42, 68.6% of the respondents agreed that observance of management and industry standards was used by NBL and supported by a mean of 3.4, while 59.8% of the respondents agreed that adherence to firm and legal policies and procedures was embraced by NBL and supported by a mean of 3.33. Sixty-five-point eight percent of the respondents agreed that adherence to firm and legal policies and procedures was used at NBL and supported by a mean of 3.32 and 65.8% of the respondents agreed that the standard procedures and guidelines are observed in production and distribution was used by NBL and supported by a mean of 3.29

##### 5.2.3 Innovation

Fifty nine point five percent of the respondents agreed that use of modern and new technology is used by NBL and supported by a mean of 3.4, 65.8% of the respondents agreed that originality is embraced by NBL and supported by a mean of 3.39, 66% of the

respondents said that use of models to guide production process was eminent at NBL as supported by a mean of 3.38 and 57.3% of the respondents said that integrated and continuous process improvement was used at NBL as indicated by a mean of 3.13.

#### **5.2.4 Lean Supply Chain Management**

Sixty-nine-point three percent of the respondents agreed that effective inventory management was present at NBL and supported by a mean of 3.31 while 60.3% of the respondents said that efficient logistics management was present at NBL and supported by a mean of 3.29. Majority (66.5%) of the respondents said that controlled and organized warehousing was embraced by NBL and supported by a mean of 3.29 and 60.8% of the respondents agreed that effective distribution modes and means was used by NBL and supported by a mean of 3.14.

#### **5.2.5 Organizational Performance**

Eighty-seven-point eight percent of the respondents agreed that profitability was a factor of performance at NBL and supported by a mean of 4.13 while 83.2% of the respondents said that market share was a facore of performance at NBL and supported by a mean of 4.11. Majority (80.7%) of the respondents said that growth in scale and size was a factor of performance at NBL and supported by a mean of 3.96, 89.7% of the respondents agreed that employee output was employed as a measure of performance at NBL and supported by a mean of 4.43 and 85.8% of the respondents agreed that efficiency was employed as a measure of performance at NBL and supported by a mean of 4.29.

#### **5.2.5 The Overall Regression Model**

Continous improvement practices (lean manufacturing, industry best practices, continuous innovation and lean supply chain management) explained 73.6% of the performance at NBL. This is supported by coefficient of determination also known as the R square of 73.6%.

The analysis of the variance (ANOVA). The results indicate that the overall model was statistically significant as supported by a p value of 0.000 which is less than the critical p value of 0.05. The  $F_{cal}=26.479 > F_{critical} =2.4599$  at  $\alpha$  0.05 which imply that continous improvement practices (lean manufacturing, industry best practices, continuous innovation and lean supply chain management) are good predictors of the performance at NBL.

### **5.3 Conclusions of the Study**

In line with the above findings the study concluded that standardization of products was used by Nairobi Bottlers Limited, waste reduction procedures was embraced by NBL, mechanization of the production line was used by NBL and capacity building among staff and system was embraced by NBL. Secondly the study concluded that fair and diligent financial management was used by NBL, observance of management and industry standards was used by NBL, adherence to firm and legal policies and procedures was embraced by NBL, the standard procedures and guidelines are observed in production and distribution at NBL.

Thirdly the study concluded that use of modern and new technology is used by NBL, originality is embraced by NBL, use of models to guide production process was eminent at NBL and that integrated and continuous process improvement was used at NBL. Fourthly the study concluded that effective inventory management was present at NBL, efficient logistics management was present at NBL, controlled and organized warehousing wa embraced by NBL and that effective distribution modes and means was used by NBL. Fifthly the study concluded that profitability was a factor of performance at NBL, market share was a factor of performance at NBL, growth in scale and size was a factor of performance at NBL, employee output was employed as a measure of performance at NBL and that efficiency was employed as a measure of performance at NBL. Lastly this study concludes that there is a strong and positive relationship between continuous improvement practices (lean manufacturing, industry best practices, continuous innovation and lean supply chain management) and performance at NBL.

### **5.3 Recommendations of the Study**

#### **5.3.1 Recommendations for Managerial Policy and Practice**

Based on the above findings the study recommends that standardization of products should be sustained by Nairobi Bottlers Limited, that waste reduction procedures should be improved by NBL, that mechanization of the production line should be increased by NBL and capacity building among staff and system should be increased by NBL. The study recommends that fair and diligent financial management should be perfected at NBL, that

observance of management and industry standards ought to be improved at NBL, that adherence to firm and legal policies and procedures should be practiced by NBL and that standard procedures and guidelines should be observed in production and distribution at NBL. The study recommends that use of modern and new technology is should be used by NBL, originality should be encouraged at NBL, use of models to guide production process should be improved at NBL and that integrated and continuous process improvement should be sustained at NBL. The study recommends that effective inventory management should be sustained at NBL, efficient logistics management should be improved at NBL, controlled and organized warehousing should be perfected at NBL and that effective distribution modes and means should be used at NBL. Lastly the study recommends that continuous improvement practices (lean manufacturing, industry best practices, continuous innovation and lean supply chain management) should be improved so as to increase performance at NBL.

#### **5.4 Suggestions for Further Study**

Future studies should address the continuous improvement practices and performance of Nairobi Bottlers Limited, Kenya as well as strategic solutions to the poor performance at Nairobi Bottlers Limited, Kenya. An in-depth study on continuous improvement practices should be conducted. It is important for such a study in order to establish compliance to the set standards of continuous improvement practices. A replica of this study can be carried out with a further scope to include more companies in Kenya other than Nairobi Bottlers Limited. A similar study can be done on other continuous improvement practices other than those practiced by Nairobi Bottlers Limited.

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## APPENDICES

### Appendix I: Transmittal Letter

Stephen Thua,  
Kenyatta University,  
Nairobi, Kenya.  
+254 751 141 118  
[thuastephen88@gmail.com](mailto:thuastephen88@gmail.com)

Dear Sir/Madam,

#### **REF: Invitation to Participate in a Research**

I am a Management student from Kenyatta University currently conducting a research on **‘Continuous Improvement Practices and Organizational Performance of Nairobi Bottlers Limited, Kenya.’** I am kindly requesting that you give me a few minutes off your busy schedule to complete the attached questionnaire. The questions seek your opinions regarding your firm operations, best practices, innovation, supply chain management and general performance.

I thank you for being part of this study.

Yours faithfully,

**Stephen Thua**



### **Lean Manufacturing**

6. To what range are the aspects of lean manufacturing below embraced at Nairobi Bottlers Limited?

Lean Manufacturing	1	2	3	4	5
Standardization of products					
Waste reduction procedures					
Mechanization of the production line					
Capacity building among staff and system					

### **Best Industry Practices**

7. To what extent do the following aspects of best industry practices applied in NBL?

Best Industry Practices	1	2	3	4	5
Fair and diligent Financial Management					
Observance of management and industry standards					
Adherence to firm and legal policies and procedures					
The standard procedures and guidelines are observed in production and distribution					

### **Innovation**

8. To what extent are the following aspects of innovation applied at Nairobi Bottlers Limited?

Innovation	1	2	3	4	5
Use of modern and new technology					
Originality					
Use of models to guide production process					
Integrated and continuous process improvement					

### **Lean Supply Chain Management**

9. To what extent are the following aspects of lean supply chain management exercised in your company?

Lean Supply Chain Management	1	2	3	4	5
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Effective inventory management

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Efficient logistics management

Controlled and organized warehousing

Effective distribution modes and means

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**Organizational Performance of Nairobi Bottlers Limited**

10. What is your level of agreement with how performance of NBL between 2014 and 2018 has met the outlined criteria?

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Performance Indicators	1	2	3	4	5
Profitability					
Market share					
Growth in scale and size					
Employee output					
Efficiency					

---

**End of Questionnaire, Thank you for participating.**

### Appendix III: Research Authorization from Kenyatta University



KENYATTA UNIVERSITY  
GRADUATE SCHOOL

E-mail: [dean-graduate@ku.ac.ke](mailto:dean-graduate@ku.ac.ke)

P.O. Box 43844, 00100  
NAIROBI, KENYA  
Tel. 810901 Ext. 4150

Website: [www.ku.ac.ke](http://www.ku.ac.ke)

Internal Memo

FROM: Dean, Graduate School

DATE: 7<sup>th</sup> September, 2021

TO: Thua Stephen Maina  
C/o Business Administration Dept.

REF: D53/OI/CTY/32162/2017

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 25<sup>th</sup> August, 2021 approved your Research Project Proposal for the M.B.A Degree Entitled, "Continuous Improvement Practices and Performance of Nairobi Bottlers Limited, Kenya"

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed supervision tracking and progress report forms per semester. The forms are available at the university's website under Graduate School webpage downloads.

Thank you.

ELIJAH MUTUA  
FOR: DEAN, GRADUATE SCHOOL







c.c. Chairman, Business Administration Department.

Supervisors:

1. Mr. Shadrack Bett  
C/o Department of Business Administration  
Kenyatta University

EM/m

## Appendix IV: Nacosti Research Permit

 <b>REPUBLIC OF KENYA</b>	 <b>NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY &amp; INNOVATION</b>
Ref No: <b>971461</b>	Date of Issue: <b>24/October/2021</b>
<b>RESEARCH LICENSE</b>	
	
<b>This is to Certify that Mr.. STEPHEN MAINA THUA of Kenyatta University, has been licensed to conduct research in Nairobi on the topic: CONTINUOUS IMPROVEMENT PRACTICES AND PERFORMANCE OF NAIROBI BOTTLERS L?M?T?D, KENYA. for the period ending : 24/October/2022.</b>	
License No: <b>NACOSTI/P/21/13632</b>	
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